

# **Back to the Future**

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## **Resilient Island Self Reliance**

May 10, 2013

Build & Buy Green

Honolulu, Hawai'i



# About O'Brien & Company

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Green building and sustainability consulting

- Built projects: commercial, educational, residential
- Program and policy development: green building programs, city sustainability strategies
- Education and training: green jobs training, curriculum development

Almost 20 years of work in Hawai'i



# O'Brien & Company's vision . . .

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. . . is the creation of a sustainable built environment that meets the following four criteria:

- Is **fair and equitable** - distributing risk and resources among all species
- Is **resilient and regenerative** - building the earth's capacity to support abundant life
- **Inspires and connects** people to their planet
- Supports **prosperous, healthy communities**



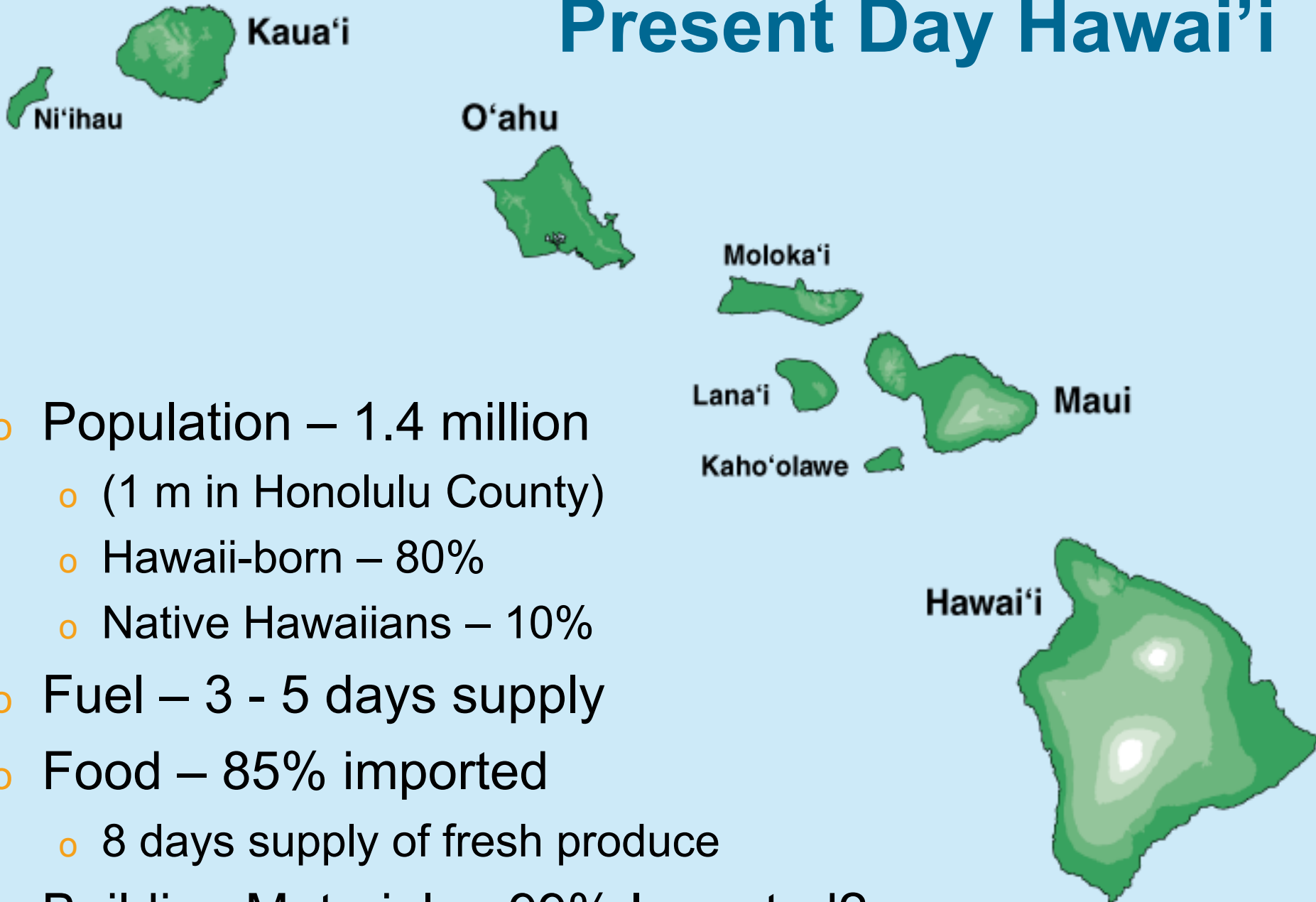
# Resilience

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- Ecology: The capacity of an ecosystem to respond to a perturbation or disturbance by resisting damage and recovering quickly.
- Materials: Capacity to recover from a shock, insult or disturbance, to bounce back, to survive change in externalities, and adapt to new conditions.



# Present Day Hawai'i



- Population – 1.4 million
  - (1 m in Honolulu County)
  - Hawaii-born – 80%
  - Native Hawaiians – 10%
- Fuel – 3 - 5 days supply
- Food – 85% imported
  - 8 days supply of fresh produce
- Building Materials - 99% Imported?

# Future Threats – Local or Global



- Probable but Unpredictable
  - Coastal Earthquake
  - Tsunami (Oceanic Earthquake)
- Probable AND Predictable
  - Sea Level Rise
  - Rainfall Reduction
  - Ocean warming and acidification
  - Natural Resource impacts





# External Dependence

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- Long supply chains – Low control
  - Imported Fuel Dependence
  - Imported Food Dependence
  - Imported Building Material Dependence





# Your Not Alone

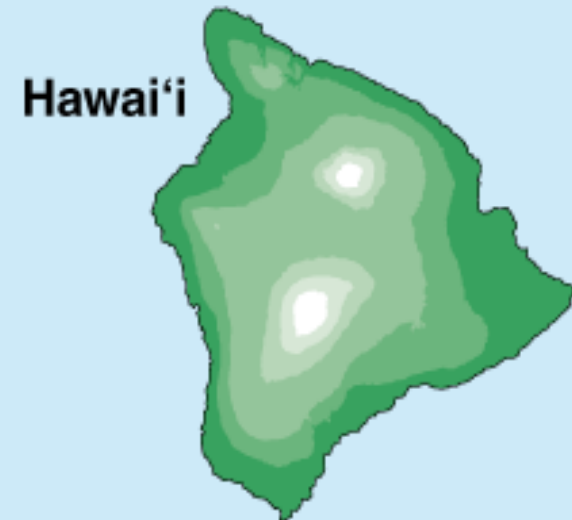




# Past Hawaii – 1778



- Population – 1.0 m
  - Native Hawaiians – 100%
- Fuel - All you needed to cook
- Food – All you needed to eat
- Building Materials – No imports



# Kanaka Maoli Values

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## Behaviors

that nourish and sustain well-being

- o Aloha – Respect
- o Laulima – Co-operation
- o Malama – Stewardship

= Pono - Balance



# Kanaka Maoli Values

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## Aloha aina

- Hawai'i 2050 Sustainability Plan
  - Goal 5: Kanaka Maoli Culture and Island Values
  - The Aloha Index – Health and Well-being
  - Public Opinion Poll “Overwhelming majority of Hawai'i citizens are committed to protecting Hawai'i's environment



# Behavior Change at Scale

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- Common Agenda
- Shared Measurement
- Planned & Mutually-reinforcing Activities
- Communication – trust, motivation  
accountability
- Co-ordination and Support



# Low-tech Behavior Change in Sitka, AK

“Traffic light” sign at one intersection targets the residential sector with a basic feedback program

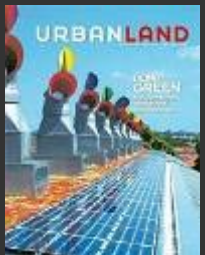


- Population 8,952 with power mix of diesel generation and hydro power
- 5-10% (1-2 MW) reduction in system load when the “traffic light” on the sign changed to red
- Annual savings = **60 million kWh & \$5.6 million** in electric charges





# BedZED



*"BedZED's environmental achievements suggests that neighborhood-scale sustainable development can go much further than has been imagined in the USA."*

Urban Land





*BioRegional's "ecoConciierge" approach helped keen residents achieve nearly half of their total footprint reduction through behavior change.*



# Mahalo!

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# Resilient Communities

- Connected communities
- Social Capital, political cohesion
- Behavior Change
- Local Economy – local dollars

# Back to the Future

- Rambunctious Garden – Big Island Jungle example
- Ahupua'a land management
  - Aquaculture –
- Indigenous Building materials
  - Bamboo
  - Lava Rock – but don't mess with Pele



# Confused? We are . . .

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- **If you're 27 or younger, you've never experienced a colder-than-average month**
  - Grist – November, 2012
- **If You're 27 Or Younger You've Almost Certainly Experienced Many Colder-Than-Average Months**
  - Forbes – November, 2012